

*Step-by-Step Guide to
NAS (NFS) Failover
over a LAN (with unicast)
Supported by Open-E® DSS™*

open-e

ENTERPRISE LEVEL **STORAGE OS**
for EVERY BUSINESS

DSS V6
DATA STORAGE SOFTWARE

16 TB



Easy to use, GUI based management provides performance and security.



Reliable disk based backup and recovery, along with Snapshot capability enable fast and reliable backup and restore.



Easy to implement remote Replication, at block or volume level, enables cost-effective disaster recovery.



IP based storage management combines NAS and iSCSI functionality for centralized storage and storage consolidation.

Software Version: DSS ver. 6.00 up65

Presentation updated: March 2011

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NAS (NFS) Failover over a LAN

	Replication Mode		Source/Destination			Data Transfer		Volume Type			
	Synchronous	Asynchronous	w/ System	LAN	WAN	File based	Block based	NAS	iSCSI		FC
									File-IO	Block-IO	
NAS (NFS) Failover over a LAN	✓			✓			✓	✓			

- **Open-E DSS NAS (NFS) Failover** is a fault tolerance process via NAS volume replication, that creates mirrored data volumes.
 - Data is copied in real-time, and every change is immediately mirrored from the primary server to the secondary storage server.
 - In case of a failure, scheduled maintenance of the primary server, or loss of the primary data source, failover automatically switches operations to the secondary storage server, so processes can be continued as usual.

VOLUME REPLICATION WITH FAILOVER BETWEEN TWO SYSTEMS WITHIN ONE LAN

■ Recommended Resources

- Key Hardware (two systems)
 - ✓ x86 compatible
 - ✓ RAID Controller with **Battery Backup Unit**
 - ✓ HDD's
 - ✓ Network Interface Cards
 - ✓ Ping Node (ping node it is any permanently (24/7) available host in the network. In particular case the ping node function can be performed by the server storing the data on the failover volume).
- Software
 - ✓ Open-E DSS V6, 2 units

■ Benefits

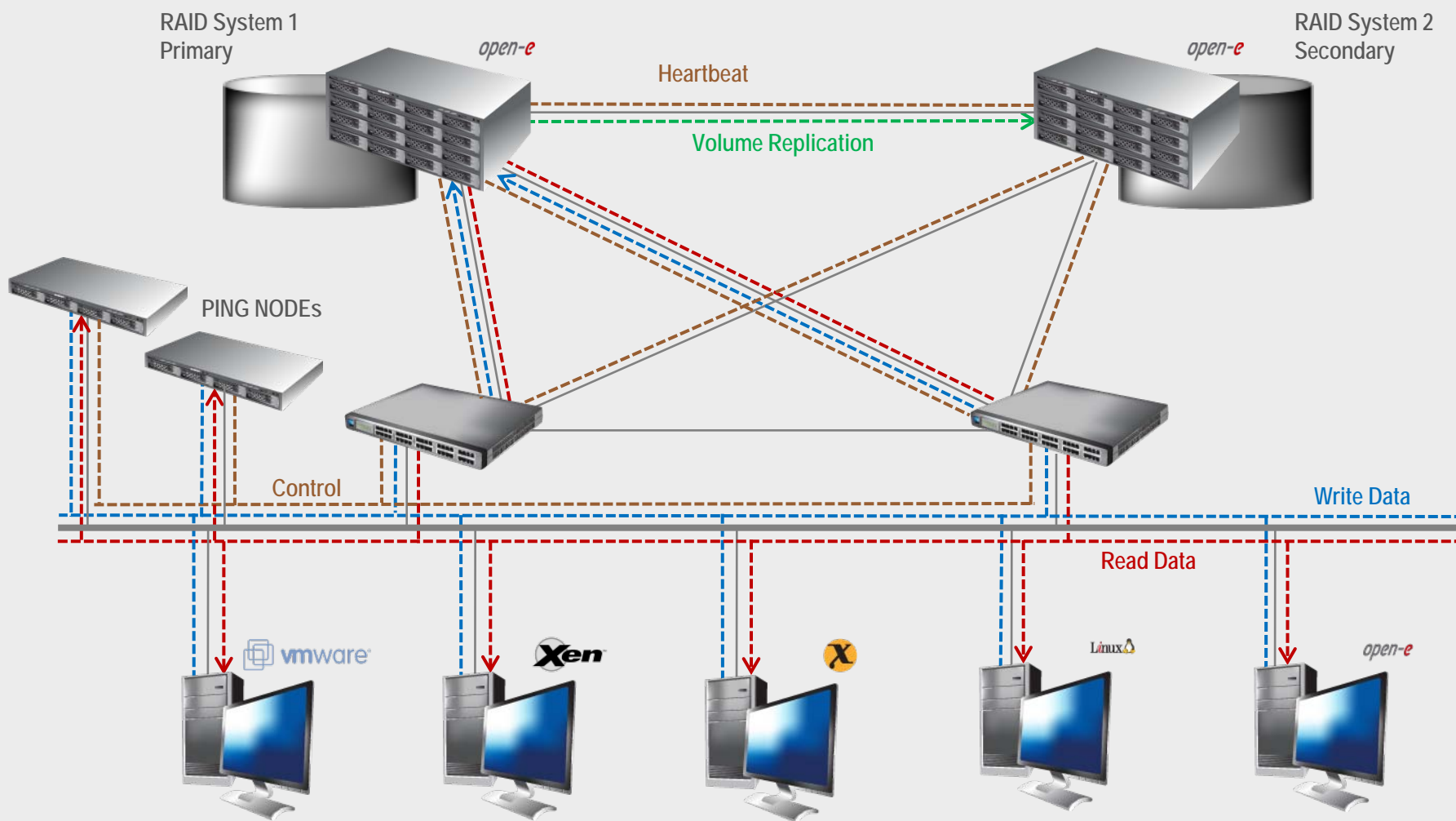
- Eliminate business disruption
- Data Redundancy over a LAN
- Switch Redundancy

■ Disadvantages

- High cost of solution
- Natural disasters (earthquake, fire, flood...) can destroy local systems

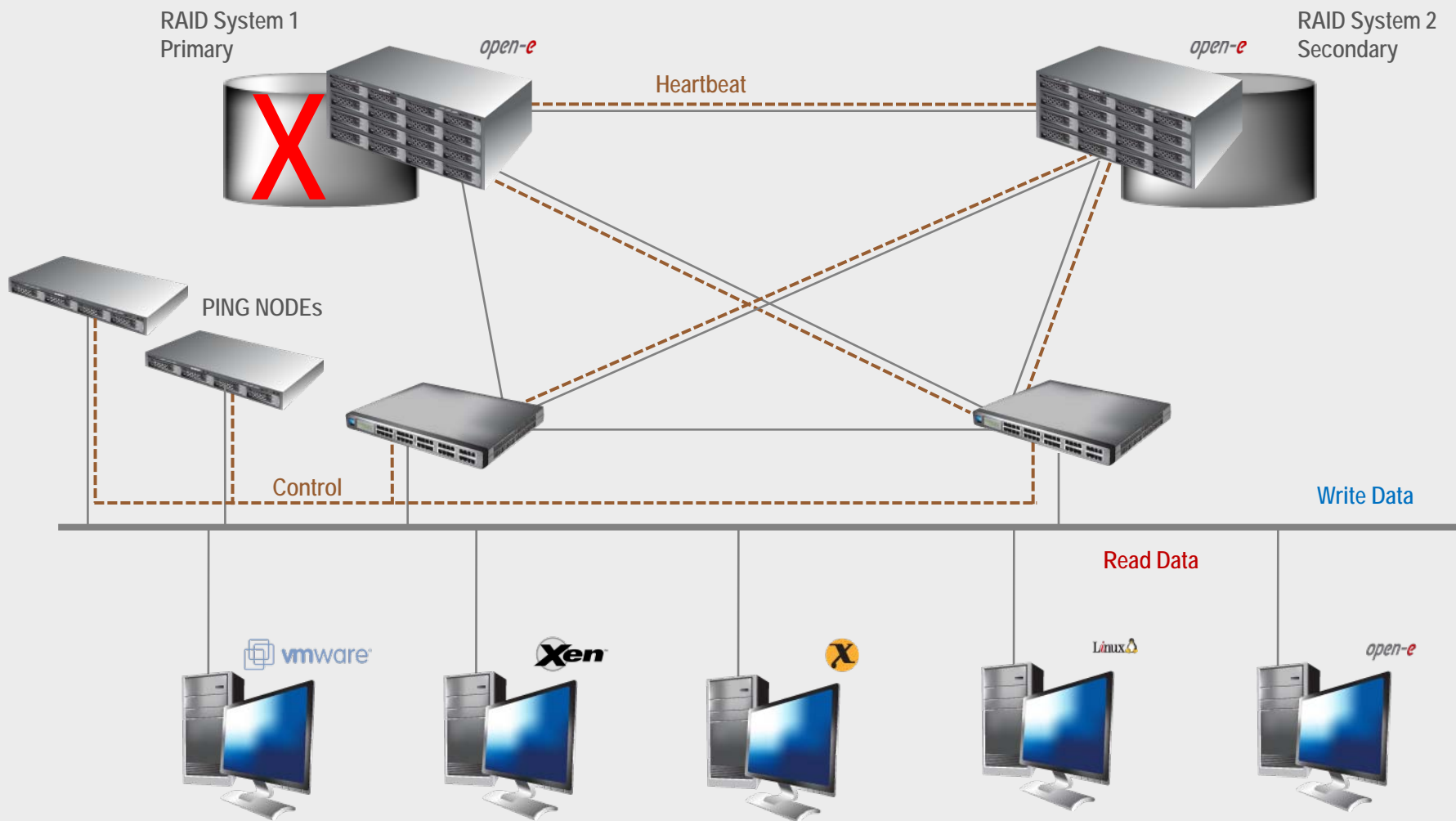
NAS (NFS) Failover over a LAN

- Data is written and read to System 1 (primary)
- Data is continually replicated to System 2 (secondary)



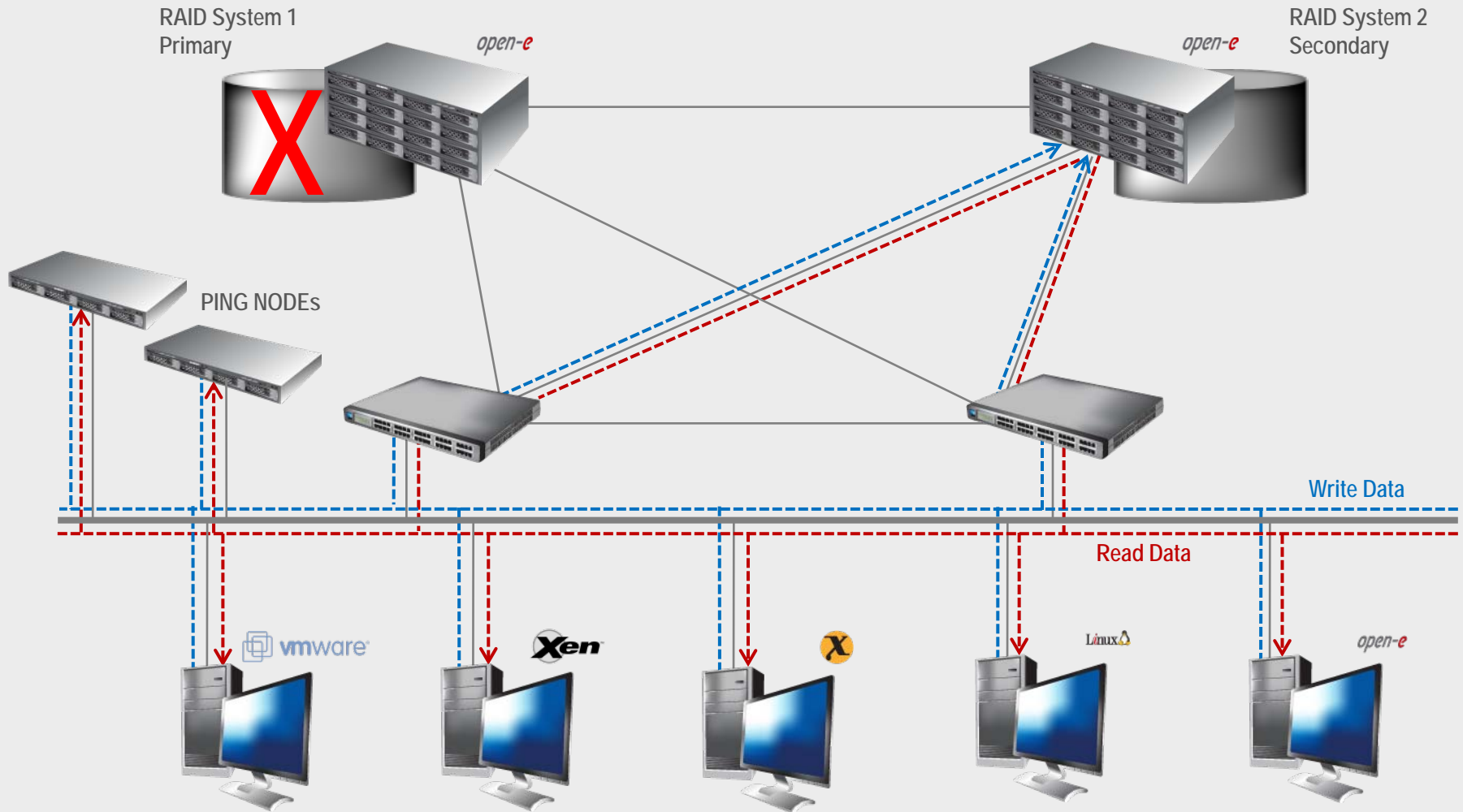
NAS (NFS) Failover over a LAN

- In case system malfunction or power failure or lost network connection of the System1 (primary), the server will send an e-mail Notification to the administrator.
- After a few seconds Automatic Failover is executed and users are switched to System 2 (secondary).



NAS (NFS) Failover over a LAN

- After switching, the replicated volume is available on System 2 (secondary)



TO SET UP NAS (NFS) FAILOVER, PERFORM THE FOLLOWING STEPS:

1. Hardware configuration:
 - Settings server names, ethernet ports and bonding on secondary and primary node
2. Configure the Secondary node:
 - Create a Volume Group, NAS Volume
 - Configure Volume Replication mode (destination mode) – settings mirror IP address
 - NFS settings
3. Configure the Primary node
 - Create a Volume Group, NAS Volume
 - Configure Volume Replication mode (source mode) – settings mirror IP address, creating Volume Replication task and start replication task.
 - NFS settings,
 - Create and settings new share on primary node.
4. Configure Failover (primary and secondary node)
5. Select services used in Failover
6. Configure virtual IP and Auxiliary connection
7. Start Failover Service
8. Test Failover Function
9. Run Failback Function

NAS (NFS) Failover over a LAN

Hardware Requirements:

To run the Volume Replication with Failover, two DSS systems are required. Both servers must be located and working in the Local Area Network. See below configurations for examples:

Data Server (DSS1)

Primary node

IP Address: 192.168.0.220

1. Hardware Configuration

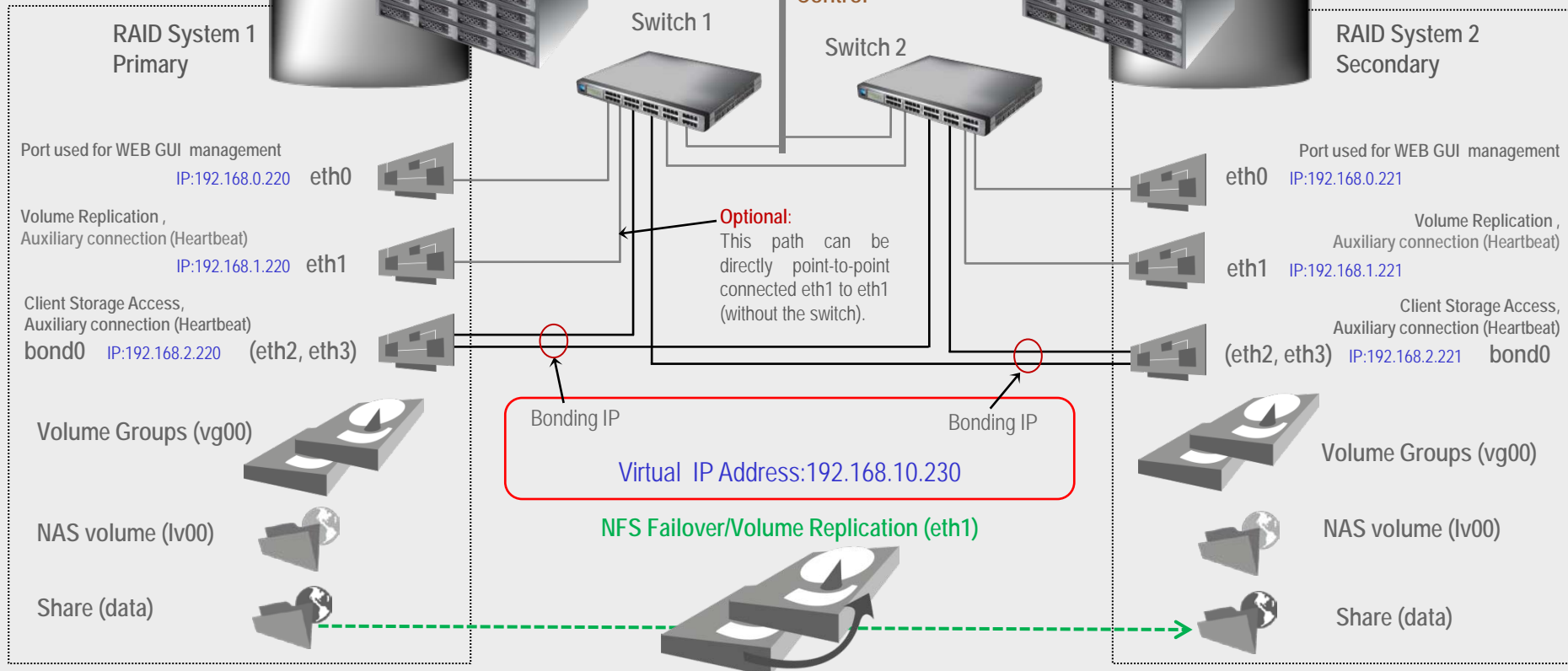
PING NODEs

IP Address : 192.168.2.106; 192.168.2.107

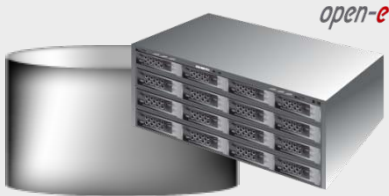
Data Server (DSS2)

Secondary node

IP Address: 192.168.0.221



NAS (NFS) Failover over a LAN



Data Server (DSS2)
Secondary node
IP Address: 192.168.0.221

1. Hardware Configuration

After logging on the DSS V6 please go to „**SETUP**“ tab, „**network**“ and „**Interfaces**“. In „**Server name**“ function enter Server name, in this example „**dss2**“ and click **apply** button. (All connections will be restarted)

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Interfaces

Interfaces

- eth0
- eth1
- eth2
- eth3

Server name

Server name:

Comment:

apply

Please apply changes or press "reload" button to discard

Hostname

Info

Please do not change the hostname unless it is absolutely necessary, as changing the hostname can cause serious issues with several advanced functions (such as Failover). This function requires server restart.

Hostname:

apply

DNS settings

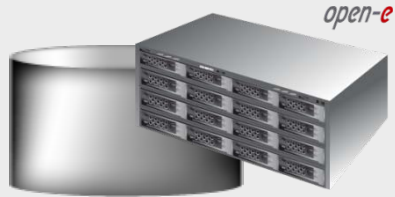
DNS:

apply

Event Viewer:

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NAS (NFS) Failover over a LAN



Data Server (DSS2)

Secondary node

IP Address: 192.168.0.221

1. Hardware Configuration

Next select **eth0** interface and change IP Address from 192.168.0.220 in field IP address to 192.168.0.221, and click **apply** button. (This will restart network configuration).

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Interfaces > eth0

Interfaces

- eth0
- eth1
- eth2
- eth3

Interface info

Intel Corporation 82557/8/9/0/1 Ethernet Pro 100 (rev 10)

IP address

Warning
Warning! You are currently connected through this interface.

☒ Active
MAC: 00:E0:81:58:4F:C5

☐ DHCP

☒ Static

IP address: 192.168.0.221

Netmask: 255.255.255.0

Broadcast: auto

Gateway:

apply

Please apply changes or press "reload" button to discard

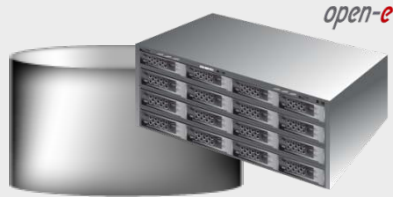
Failover

- eth0
- eth1
- eth2
- eth3

Event Viewer: [icon]

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NAS (NFS) Failover over a LAN



Data Server (DSS2)

Secondary node

IP Address: 192.168.0.221

1. Hardware Configuration

Next select **eth1** interface and change IP address from 192.168.1.220 in field IP address to 192.168.1.221 and click **apply** button.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Interfaces > eth1

Interfaces

- eth0
- eth1**
- eth2
- eth3

Interface info

Broadcom Corporation NetXtreme BCM5705 Gigabit Ethernet (rev 03)

IP address

☒ Active
MAC: 00:E0:81:58:4F:C3

☐ DHCP

☒ Static

IP address: 192.168.1.221

Netmask: 255.255.255.0

Broadcast: auto

Gateway:

apply

Please apply changes or press "reload" button to discard

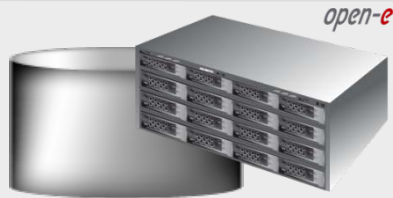
Failover

- eth0
- eth1
- eth2
- eth3

Event Viewer: [icon]

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NAS (NFS) Failover over a LAN



Data Server (DSS2)
Secondary node
IP Address:192.168.0.221

1. Hardware Configuration

Again select „Interfaces” and in Create new bond interface function check two boxes with eth2 and eth3. In field Create select bonding mode. In this example select New balance-rr.

Next enter IP Address in field Address IP 192.168.2.221, Netmask, and click **create** button.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Interfaces

Interfaces

- ☐ eth0
- ☐ eth1
- ☒ eth2
- ☒ eth3

Create new bond interface

✓	Primary	Interface	Active	Cable	State
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	Single
<input type="checkbox"/>	<input type="checkbox"/>	eth1	yes	no cable	Single
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth2	yes	cable	Single
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	Single

Create:

MAC:

☐ DHCP

☒ Static

Address IP:

Netmask:

Broadcast:

Gateway:

create

Please apply changes or press "reload" button to discard

Failover

- ☐ eth0
- ☐ eth1
- ☐ eth2
- ☐ eth3

HTTP proxy

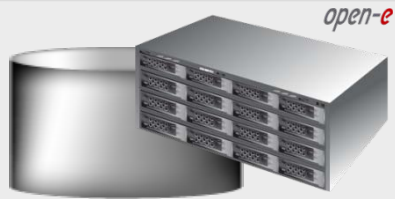
☐ Use HTTP proxy

apply

Event Viewer:

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NAS (NFS) Failover over a LAN



Data Server (DSS2)

Secondary node

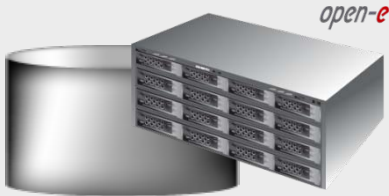
IP Address:192.168.0.221

1. Hardware Configuration

After reloading page on the dss2 server you have configured **bond0**. Setting of the network interfaces on the secondary node is finished.

The screenshot shows the open-e web interface for the secondary node. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'CONFIGURATION' tab is active, and the breadcrumb trail shows 'You are here: SETUP > network > Interfaces'. The 'Interfaces' section on the left lists network interfaces: eth0, eth1, eth2 (bond0), eth3 (bond0), and bond0. A blue arrow points from the text box to the 'bond0' interface. The 'Failover' section below it lists eth0, eth1, and bond0. The main configuration area on the right contains three sections: 'Server name' with fields for 'Server name' (dss2) and 'Comment' (Data Storage Software); 'Hostname' with an 'Info' box warning against changing the hostname and a field for 'Hostname' (dssA0000032); and 'DNS settings' with a field for 'DNS'. Each section has an 'apply' button. The footer shows 'Event Viewer' and 'Data Storage Software V6 - All rights reserved'.

NAS (NFS) Failover over a LAN



Data Server (DSS1)
Primary node
IP Address: 192.168.0.220

1. Hardware Configuration

After logging on the primary node please go to „**SETUP**“ tab, „**network**“ and „**Interfaces**“. In „**Server name**“ function enter Server name. In this example enter **dss1** and click **apply** button. (All connection will be restarted).

The screenshot shows the open-e web interface for configuring network interfaces. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Interfaces' under the 'network' section. On the left, there are two panels: 'Interfaces' and 'Failover', both showing a list of network interfaces (eth0, eth1, eth2, eth3). The 'Server name' field is set to 'dss1'. The 'Comment' field is set to 'Data Storage Software'. The 'Hostname' field is set to 'dssA0000031'. The 'DNS settings' field is empty. The 'apply' button is highlighted in red. A blue box on the left contains instructions for logging on the primary node and configuring the server name.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Interfaces

Interfaces

- eth0
- eth1
- eth2
- eth3

Server name

Server name:

Comment:

apply

Please apply changes or press "reload" button to discard

Hostname

Info

Please do not change the hostname unless it is absolutely necessary, as changing the hostname can cause serious issues with several advanced functions (such as iSCSI failover). This function requires server restart.

Hostname:

apply

DNS settings

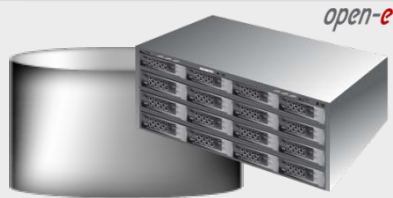
DNS:

apply

Event Viewer:

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NAS (NFS) Failover over a LAN



Data Server (DSS1)
Primary node
IP Address:192.168.0.220

1. Hardware Configuration

Again select „Interfaces” and in Create new bond interface function check two boxes with eth2 and eth3. In field Create select mode for bonding. In this example selected New balance-rr..

Next enter IP Address in field Address IP 192.168 .2.220, Netmask, and click **create** button.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Interfaces

Interfaces

- eth0
- eth1
- eth2
- eth3

Create new bond interface

✓	Primary	Interface	Active	Cable	State
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	Single
<input type="checkbox"/>	<input type="checkbox"/>	eth1	yes	cable	Single
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth2	yes	cable	Single
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	Single

Create:

MAC:

☐ DHCP

☒ Static

Address IP:

Netmask:

Broadcast:

Gateway:

create

Please apply changes or press "reload" button to discard

HTTP proxy

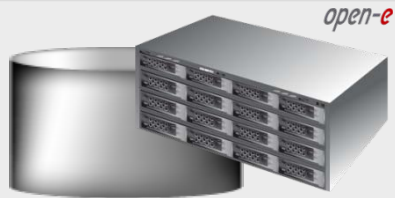
☐ Use HTTP proxy

apply

Event Viewer:

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NAS (NFS) Failover over a LAN



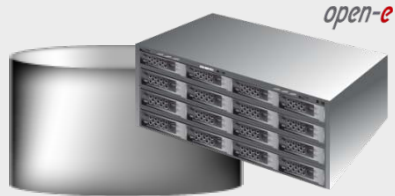
Data Server (DSS1)
Primary node
IP Address: 192.168.0.220

1. Hardware Configuration

After reloading page on the dss1 server you have configured **bond0**. Setting of the network interfaces on the secondary node is finished.

The screenshot displays the open-e web interface for configuring a Data Storage Server (DSS1). The interface includes a top navigation bar with tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Interfaces', which is part of the 'network' section under 'SETUP'. The 'Interfaces' tab is active, showing a list of network interfaces: eth0, eth1, eth2 (bond0), eth3 (bond0), and bond0. A blue arrow points from the text box to the 'bond0' interface. Below the 'Interfaces' tab is the 'Failover' tab, which also shows a list of interfaces: eth0, eth1, and bond0. The right side of the interface contains configuration fields for the 'Server name' (dss1), 'Hostname' (dssA0000031), and 'DNS settings'. The 'Server name' field has a comment 'Data Storage Software'. The 'Hostname' field has an info box stating: 'Please do not change the hostname unless it is absolutely necessary, as changing the hostname can cause serious issues with several advanced functions (such as iSCSI failover). This function requires server restart.' The 'DNS settings' field is empty. The footer of the interface shows 'Event Viewer' and 'Data Storage Software V6 - All rights reserved'.

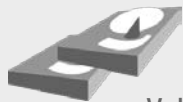
NAS (NFS) Failover over a LAN



Data Server (DSS2)
Secondary node
IP Address:192.168.0.221

2. Configure the Secondary node

Under the „CONFIGURATION” tab, select „volume manager” and next Vol. Groups.



Volume Groups (vg00)

In Unit manager function add the selected physical units (Unit S000 or other) to create a new volume group (in this case, vg00) and click **apply** button

The screenshot shows the open-e web interface with the following components:

- Header:** open-e logo, "ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS", and "DATA STORAGE SOFTWARE V6".
- Navigation Tabs:** SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP.
- Breadcrumb:** You are here: CONFIGURATION > volume manager > Vol. groups
- Left Sidebar:** Contains "Vol. groups" and "Vol. replication" tabs. A blue arrow points to "Vol. groups".
- Main Content Area:**
 - Unit rescan:** A section with a "rescan" button.
 - Unit manager:** A section with a table and form.

✓	Unit	Size (GB)	Serial number	Status
<input checked="" type="checkbox"/>	Unit MD0	298.10	N/A	available

Action:
Name:

apply

Please apply changes or press "reload" button to discard
 - Vol. replication:** A section with a "Vol. replication" tab and a "Drive identifier" table.

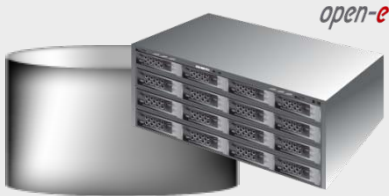
✓	Unit	Serial number	Status
<input type="checkbox"/>	Unit S000	9SY0QWBT	
<input type="checkbox"/>	Unit S001	9RA6VDG3	

apply

Event Viewer: [icon]

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NAS (NFS) Failover over a LAN



Data Server (DSS2)
Secondary node
IP Address:192.168.0.221

2. Configure the Secondary node

Select the appropriate volume group (**vg00**) from the list on the left and create a **new NAS volume** of the required size. This logical volume will be the destination of the replication process.

Next check the box with **Use volume replication**

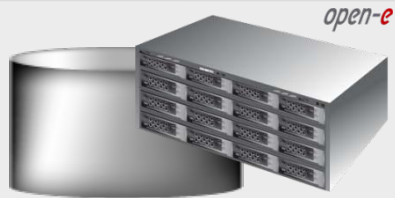
After assigning an appropriate amount of space for the NAS volume, click the **apply** button

The screenshot shows the open-e web interface for configuring storage. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The main content area is titled 'You are here: CONFIGURATION > volume manager > Vol. groups > vg00'. On the left, under 'Vol. groups', 'vg00' is selected. On the right, the 'Volume manager' section shows a table of system volumes:

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.00
Free	290.06

Below the table, the 'Action:' dropdown is set to 'new NAS volume'. Under 'Vol. replication', the 'Use volume replication' checkbox is checked. A slider for volume size is shown, with 'add: 100 GB (+0.12 GB for replication)' entered. The 'apply' button is highlighted in red. At the bottom, there is a 'Snapshot definition' section and an 'Event Viewer' icon.

NAS (NFS) Failover over a LAN



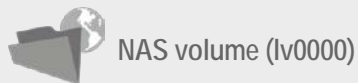
Data Server (DSS2)

Secondary node

IP Address: 192.168.0.221

2. Configure the Secondary node

The destination NAS Volume is now configured.



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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: CONFIGURATION > volume manager > Vol. groups > vg00

Vol. groups

vg00

Vol. replication

Volume manager

Info
Logical volume lv0000 has been created successfully.

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000			✓		N/A	100.00
System volumes						Size (GB)
SWAP						4.00
Reserved for snapshots						0.00
Reserved for system						4.00
Reserved for replication						0.13
Free						189.94

Action: new NAS volume

☐ Use volume replication
☐ WORM

0 189.94

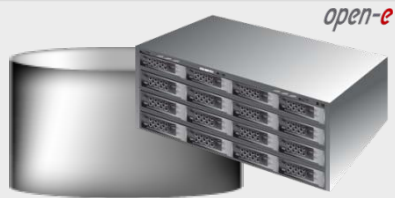
add: 0.00 GB

apply

Event Viewer: [icon]

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NAS (NFS) Failover over a LAN



Data Server (DSS2)
Secondary node
IP Address: 192.168.0.221

2. Configure the Secondary node

Now, select the Vol. replication and check the box under **Destination** and click the **apply** button

Next, under **Mirror Server IP** function, enter the IP address of the Primary node (in our example, this would be 192.168.1.220) and click the **apply** button

The screenshot shows the open-e web interface with the following sections:

- Vol. groups:** A list containing 'vg00'.
- Vol. replication:** A section with a table for volume replication mode.
- Mirror server IP:** A section for setting the mirror server IP.
- Create new volume replication task:** A section with an info message.
- Replication tasks manager:** A section for managing replication tasks.

Volume replication mode table:

Logical Volume	Init	Source	Destination	Clear metadata
lv0000	done	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Mirror server IP section:

IP address:

☐ WAN

Create new volume replication task section:

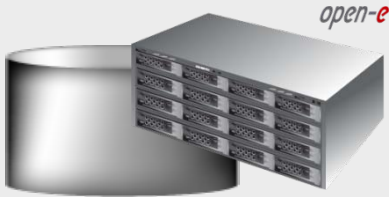
Info
Mirror Server IP is not set.

NOTE:

The Mirror server IP Address must be on the same subnet in order for the replication to communicate. VPN connections can work if you are not using a NAT. Please follow example:

- Source: 192.168.1.220
- Destination: 192.168.1.221

NAS (NFS) Failover over a LAN



Data Server (DSS2)

Secondary node

IP Address: 192.168.0.221

2. Configure the Secondary node

Choose „CONFIGURATION“,
and „NAS settings“ from the
menu on the secondary node

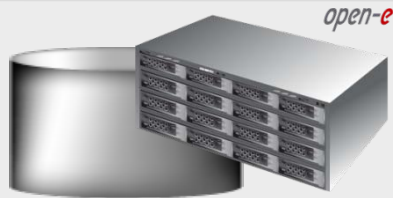
In the NAS settings function,
check the box Use NFS, click
apply to confirm.

The screenshot displays the open-e web interface for configuring a secondary node. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is titled "You are here: CONFIGURATION > NAS settings". The main content area is divided into several sections:

- Workgroup settings:** Includes radio buttons for "Workgroup (external LDAP)", "Windows (PDC)", "Windows (ADS)", and "Workgroup (NIS Server)". A text field labeled "Workgroup:" contains the value "WORKGROUP". A "Show advanced >>" link and an "apply" button are also present.
- NFS settings:** Features a checkbox labeled "Use NFS" which is checked. An "apply" button is located below the checkbox. A note at the bottom of this section reads: "Please apply changes or press 'reload' button to discard".
- FTP settings:** Includes a checkbox labeled "Use FTP" which is unchecked. An "apply" button is located below the checkbox.
- AppleTalk (AFP) settings:** Includes a checkbox labeled "Use AppleTalk (AFP)" which is unchecked.

The bottom of the interface shows an "Event Viewer" icon and a footer with the text "Data Storage Software V6 - All rights reserved".

NAS (NFS) Failover over a LAN

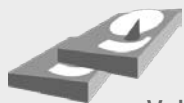


Data Server (DSS1)
Primary node
IP Address: 192.168.0.220

3. Configure the Primary node

Under the „CONFIGURATION“ tab, select „volume manager“ and next „Vol. Groups“

Add the selected physical units (Unit MD0 or other) to create a new volume group (in this case, vg00) and click **apply** button



Volume Groups (vg00)

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: CONFIGURATION > volume manager > Vol. groups

Vol. groups

Unit rescan

rescan

Unit manager

✓	Unit	Size (GB)	Serial number	Status
<input checked="" type="checkbox"/>	Unit S001	465.70	N/A	available

Action: new volume group
Name: vg00

apply

Please apply changes or press "reload" button to discard

Drive identifier

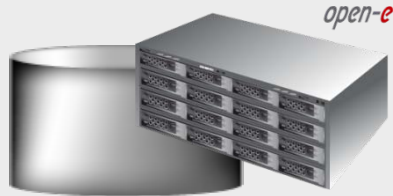
✓	Unit	Serial number	Status
<input type="checkbox"/>	Unit S001	N/A	

apply

Event Viewer: [icon]

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NAS (NFS) Failover over a LAN



Data Server (DSS1)
Primary node
IP Address:192.168.0.220

3. Configure the Primary node

Select the appropriate volume group (**vg00**) from the list on the left and create a **new NAS volume** of the required size. This logical volume will be the source of the replication process

Next , check box **Use volume replication**

After assigning an appropriate amount of space for the NAS volume, click the **apply** button

NOTE:

The source and destination volumes must be of identical size.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: CONFIGURATION > volume manager > Vol. groups > vg00

Vol. groups

- vg00

Volume manager

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.00
Free	457.66

Action: new NAS volume

☒ Use volume replication
☐ WORM

0 457.66
add: 100 GB (+0.12 GB for replication)

apply

Please apply changes or press "reload" button to discard

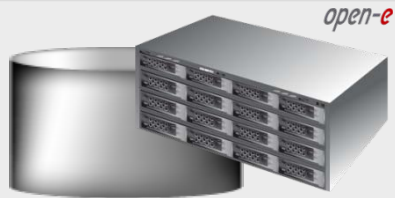
Snapshot definition

Event Viewer: [icon]

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NAS (NFS) Failover over a LAN

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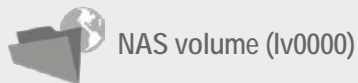
Data Server (DSS1)

Primary node

IP Address: 192.168.0.220

3. Configure the Primary node

The source NAS Volume is now configured.



NAS volume (lv0000)

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: CONFIGURATION > volume manager > Vol. groups > vg00

Vol. groups

vg00

Vol. replication

Volume manager

Info
Logical volume lv0000 has been created successfully.

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000			✓		N/A	100.00
System volumes						Size (GB)
SWAP						4.00
Reserved for snapshots						0.00
Reserved for system						4.00
Reserved for replication						0.13
Free						357.53

Action: new NAS volume

☐ Use volume replication
☐ WORM

0 357.53

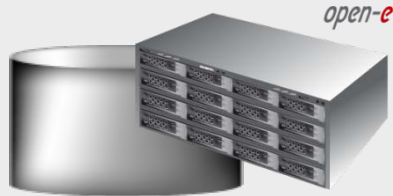
add: 0.00 GB

apply

Event Viewer: [icon]

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NAS (NFS) Failover over a LAN



Data Server (DSS1)

Primary node

IP Address: 192.168.0.220

3. Configure the Primary node

Now, select Vol. replication, and check the box under **Source** and click the **apply** button

Next, under **Mirror Server IP** function, enter the IP address of the Secondary node (in our example this would be 192.168.1.221) and click the **apply** button

The screenshot shows the open-e Data Storage Software V6 web interface. The navigation bar includes SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: CONFIGURATION > volume manager > Vol. replication.

On the left sidebar, under 'Vol. groups', 'vg00' is selected. Below it, the 'Vol. replication' option is highlighted. A blue arrow points from the text box to this option.

The main content area displays the 'Volume replication mode' configuration. It includes a table with columns: Logical Volume, Init, Source, Destination, and Clear metadata. The row for 'lv0000' shows 'done' in the Init column, a checked box in the Source column, and empty boxes in the Destination and Clear metadata columns. A blue arrow points from the text box to the 'Source' checkbox. Below the table is an 'apply' button.

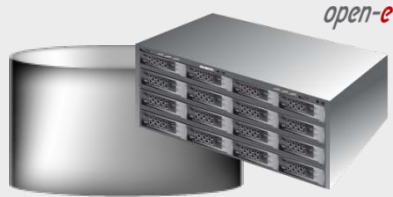
Below the replication mode section is the 'Mirror server IP' configuration. It has a text input field for 'IP address:' containing '192.168.1.221' and a checkbox for 'WAN'. A blue arrow points from the text box to the IP address field. Below this is another 'apply' button and a note: 'Please apply changes or press "reload" button to discard'.

At the bottom, there is a 'Create new volume replication task' section with an 'Info' message stating 'Mirror Server IP is not set.' and a 'Replication tasks manager' section with an 'Info' message.

The footer of the interface shows 'Event Viewer:' with an icon and 'Data Storage Software V6 - All rights reserved'.

NAS (NFS) Failover over a LAN

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Data Server (DSS1)

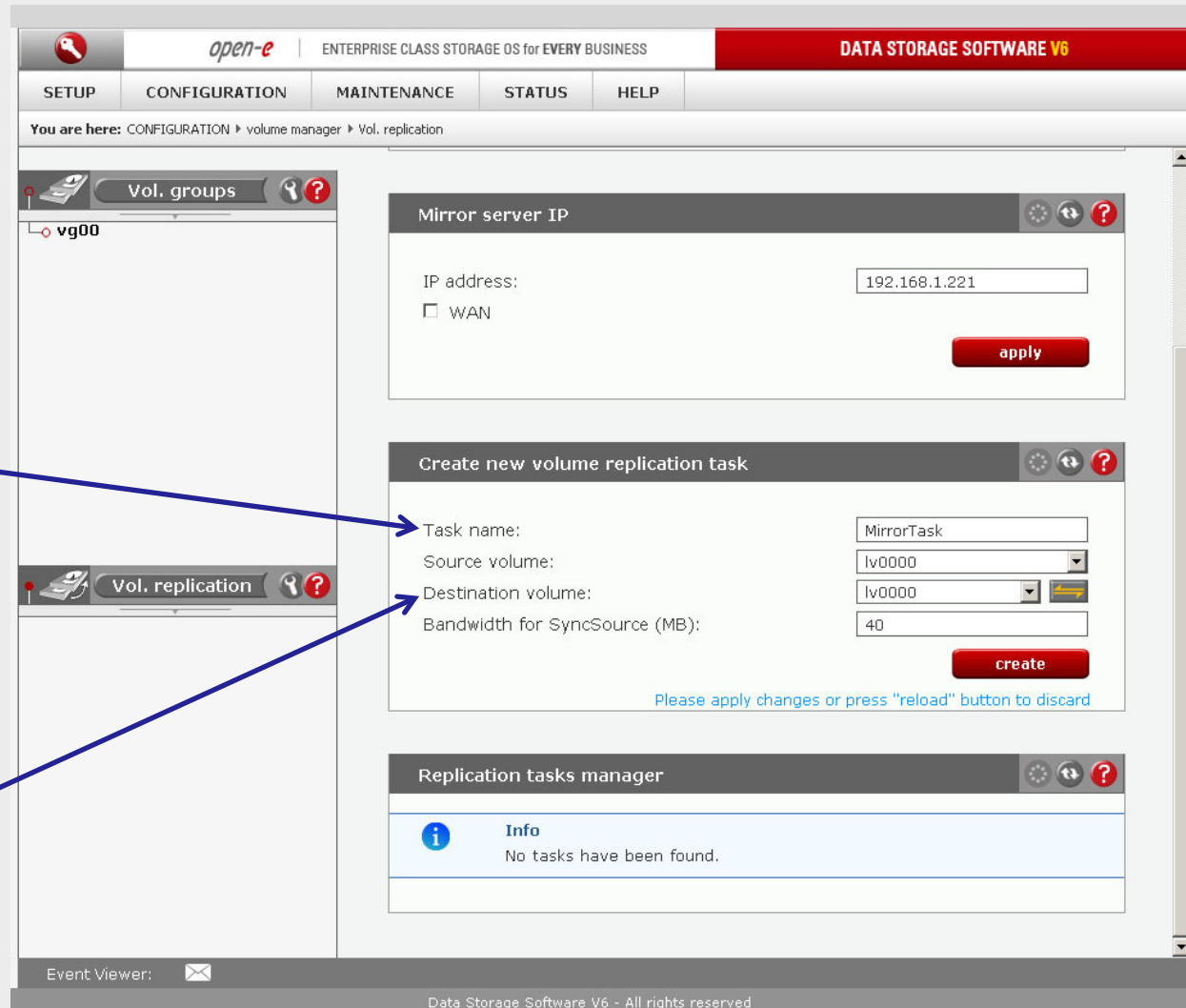
Primary node

IP Address: 192.168.0.220

3. Configure the Primary node

Enter the task name in field
Task name next click on the
button 

In the **Destination volume**
field select the appropriate
volume (in this example,
lv0000) and click **create** to
confirm



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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: CONFIGURATION > volume manager > Vol. replication

Vol. groups

vg00

Vol. replication

Mirror server IP

IP address: 192.168.1.221

☐ WAN

apply

Create new volume replication task

Task name: MirrorTask

Source volume: lv0000

Destination volume: lv0000

Bandwidth for SyncSource (MB): 40


create

Please apply changes or press "reload" button to discard

Replication tasks manager

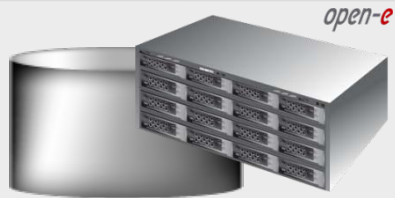
Info

No tasks have been found.

Event Viewer: 

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NAS (NFS) Failover over a LAN




Data Server (DSS1)




Primary node

IP Address: 192.168.0.220

3. Configure the Primary node

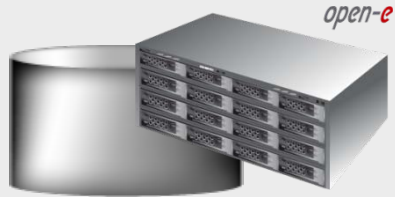
Now, in the **Replication task manager** function, click on  button under to start the Replication task on the Primary node

The screenshot shows the open-e Data Storage Software V6 web interface. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The main content area is divided into two panels. The left panel shows the 'Vol. groups' section with 'vg00' and the 'Vol. replication' section with 'MirrorTask'. The right panel shows the 'Mirror server IP' configuration with the IP address '192.168.1.221' and an 'apply' button. Below this is the 'Create new volume replication task' section with an 'Info' message. At the bottom is the 'Replication tasks manager' section, which contains a table with columns for Name, Start time, and Action. The table lists 'MirrorTask' with a start time of 'n/a' and an action column containing three buttons: a green play button, a red stop button, and a red delete button. A blue arrow points from the text box on the left to the green play button in the 'Replication tasks manager' table.

Name	Start time	Action
MirrorTask	n/a	  

NAS (NFS) Failover over a LAN

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Data Server (DSS1)

Primary node

IP Address: 192.168.0.220

3. Configure the Primary node

In the Replication tasks manager function information is available about the current running replication task.

The screenshot displays the open-e web interface for configuring a primary node. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current view is under CONFIGURATION > volume manager > Vol. replication.

Vol. groups

- vg00

Vol. replication

- MirrorTask

Mirror server IP

IP address: 192.168.1.221

☐ WAN




apply


Create new volume replication task

Info

No volumes with replication functionality found or all volumes have a task assigned already.

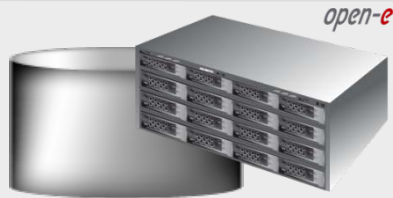
Replication tasks manager

Name	Start time	Action
MirrorTask	2011-02-22 23:39:14	  
Source volume:	lv0000	
Destination volume:	lv0000	
Destination IP:	192.168.1.221	
Protocol type:	Synchronous	

Event Viewer: 

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NAS (NFS) Failover over a LAN



Data Server (DSS1)
Primary node
IP Address: 192.168.0.220

3. Configure the Primary node

Under the „STATUS“ tab,
select „tasks“ and Volume
Replication

Click on the  button with
task name (in this case
MirrorTask) to display detailed
information on the current
replication task

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: STATUS > tasks > Volume Replication

Tasks

- Backup
- Restore from backup
- Data Replication
- Antivirus
- Volume Replication**
- Snapshots

Running tasks

Name	Type	Start time
MirrorTask	Volume replication	2011-02-22 23:39:14


Protocol type: Synchronous
Connection: Connected

Source info:
Logical volume: lv0000
Consistency: Consistent

Destination info:
Logical volume: lv0000
Consistency: Consistent
IP address: 192.168.1.221

Tasks log

Time	Name	Type	Status	Action
2011-02-22 23:39:20	MirrorTask	Volume replication	OK	Started

Event Viewer: 

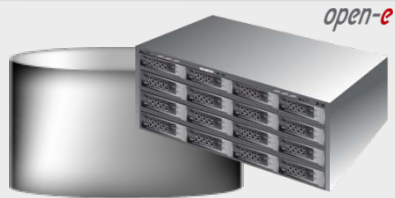
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NOTE:

Please allow the replication task to complete similar to above with status being "Consistent" before writing to the NAS Logical Volume via NFS.

NAS (NFS) Failover over a LAN

open-e



Data Server (DSS1)

Primary node

IP Address: 192.168.0.220

3. Configure the Primary node

Choose „CONFIGURATION“,
and „NAS settings“ from the
menu

In the NAS settings function,
check the box **Use NFS**, click
apply to confirm.

The screenshot displays the open-e web interface for configuring the primary node. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is titled "You are here: CONFIGURATION > NAS settings". The main content area is divided into three sections: Authentication method, NFS settings, and FTP settings. In the Authentication method section, "Workgroup (internal LDAP)" is selected, and the "Workgroup" field is set to "WORKGROUP". In the NFS settings section, the "Use NFS" checkbox is checked. In the FTP settings section, the "Use FTP" checkbox is unchecked. Each section has an "apply" button. A blue arrow points from the "CONFIGURATION" tab to the "NAS settings" page, and another blue arrow points from the "Use NFS" checkbox to the "apply" button. At the bottom of the page, there is an "Event Viewer" icon and a footer that reads "Data Storage Software V6 - All rights reserved".

Authentication method

- ☒ Workgroup (internal LDAP)
- ☐ Workgroup (external LDAP)
- ☐ Windows (PDC)
- ☐ Windows (ADS)
- ☐ Workgroup (NIS Server)

Workgroup:

Show advanced >>

apply

NFS settings

☒ Use NFS

apply

Please apply changes or press "reload" button to discard

FTP settings

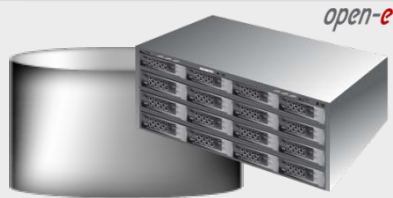
☐ Use FTP

apply

Event Viewer:

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NAS (NFS) Failover over a LAN



Data Server (DSS1)

Primary node

IP Address: 192.168.0.220

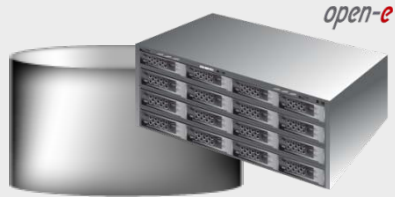
3. Configure the Primary node

Next, choose „CONFIGURATION“, „NAS resources“ and „Shares“ from the menu.

Enter share name in field „Name“ and click **apply** to confirm.

NAS (NFS) Failover over a LAN

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Data Server (DSS1)

Primary node

IP Address:192.168.0.220

3. Configure the Primary node

In the NFS share acces function, check the box Use NFS, and click **apply** to confirm.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: CONFIGURATION > NAS resources > Shares > Data

Shares

1. Data

Users

1. users

Groups

1. users

NFS share access

☒ Use NFS
Allow access IP:
Allow write IP:
☐ Insecure
☐ Synchronous
☐ Insecure locks
☐ All squash
☒ No root squash
[Show advanced >>](#)

apply

Please apply changes or press "reload" button to discard

HTTP share access

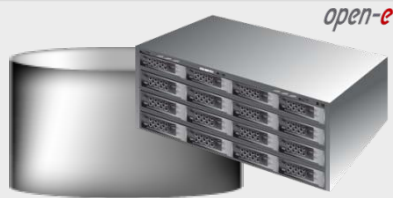
Info
Please enable "HTTP share browser" in CONFIGURATION -> NAS settings
-> Function "HTTP share access setup" to use this option!

Data replication agent settings

Event Viewer:

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NAS (NFS) Failover over a LAN



Data Server (DSS1)

Primary node

IP Address: 192.168.0.220

4. Configure Failover

Next choose „**SETUP**“, „**network**“, and select **Failover** on the primary node.

In the **Failover configuration** function, check the box **Enable Failover functionality**. Select **Network connection mode** (in this example **Unicast**) and select **Network interface for unicast** (bond0). Next enter the **Secondary node IP** and the **Ping Node IP** (must be on the same subnet) and click the **apply** button.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Failover

Interfaces

- eth0
- eth1
- eth2 (bond0)
- eth3 (bond0)
- bond0

Failover

- eth0
- eth1
- bond0

Failover status

Info

Failover statistics are unavailable due to the Failover service being disabled. Please go to Failover Configuration to enable it.

Failover configuration

☒ Enable Failover functionality

Network connection mode: Unicast

Network interface for unicast: bond0 » 192.168.2.220

☒ Primary node on localhost

Secondary node IP: 192.168.2.221

Ping node IP(s): 192.168.2.106;192.168.2.10

Show advanced >>

☐ Secondary node on localhost

Primary node IP:

Show advanced >>

apply

Please apply changes or press "reload" button to discard

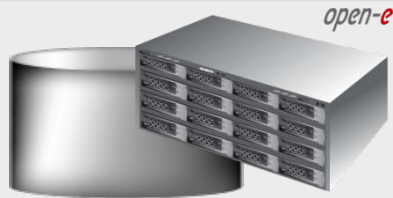
Failover services

Event Viewer: [icon]

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NAS (NFS) Failover over a LAN

open-e



Data Server (DSS2)

Secondary node

IP Address: 192.168.0.221

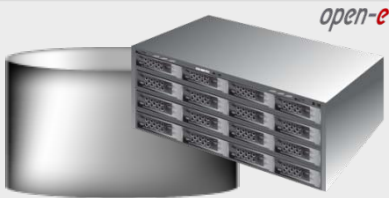
4. Configure Failover

Now, select Failover on the secondary node

Now, in **Failover configuration** function, check the box **Enable Failover functionality**. Select **Network connection mode** (in this example **Unicast**) and select **Network interface for unicast** (bond0). After choose **Secondary node on localhost** enter **Primary node IP** address and click the **apply** button

The screenshot displays the open-e web interface for configuring failover. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates 'You are here: SETUP > network > Failover'. The left sidebar shows a tree view with 'Interfaces' and 'Failover' tabs. The 'Failover' tab is active, showing a list of interfaces: eth0, eth1, eth2 (bond0), eth3 (bond0), and bond0. The main content area is divided into two sections: 'Failover status' and 'Failover configuration'. The 'Failover status' section contains an information message stating that failover statistics are unavailable because the service is disabled. The 'Failover configuration' section has a checkbox for 'Enable Failover functionality' which is checked. Below this, the 'Network connection mode' is set to 'Unicast' and the 'Network interface for unicast' is set to 'bond0'. Under the 'Secondary node on localhost' section, the 'Primary node IP' is entered as '192.168.2.220'. There are 'Show advanced >>' links for both the unicast mode and the secondary node section. An 'apply' button is located at the bottom right of the configuration section. A footer message says 'Please apply changes or press "reload" button to discard'. The bottom status bar shows 'Event Viewer' and 'Data Storage Software V6 - All rights reserved'.

NAS (NFS) Failover over a LAN



Data Server (DSS1)
Primary node
IP Address: 192.168.0.220

5. Configure Virtual IP and Auxiliary connection

Now, select the **bond0** within **Failover**. In the **Virtual IP Settings** function check box **Enable virtual IP** and enter IP address, Netmask, Broadcast, and click the **apply** button.

By setting the address of the secondary node in a **Failover configuration**, automatic detection of the interface for communication. This step is necessary to complement the destination IP address used in unicast.

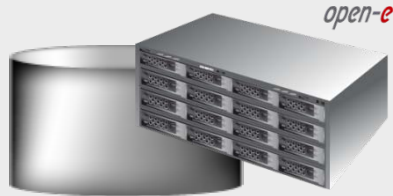
The screenshot shows the open-e web interface with the following configuration steps:

- Navigation:** The breadcrumb trail is "You are here: SETUP > network > Failover".
- Interfaces:** A list of network interfaces is shown: eth0, eth1, eth2 (bond0), eth3 (bond0), and bond0. The **bond0** interface is selected.
- Virtual IP Settings:** This panel contains an "Info" section stating that the Virtual IP must be in a different subnetwork than the physical IP. Below this, the "Enable virtual IP" checkbox is checked. The fields for IP address, Netmask, and Broadcast are filled with: 192.168.10.230, 255.255.255.0, and 192.168.10.255 respectively. The MAC address is 02:d4:08:31:eb:87. An "apply" button is at the bottom.
- Auxiliary connection:** This panel has a checkbox "Use this network interface to communicate between the nodes" which is checked. The "Unicast remote IP:" field is filled with 192.168.2.221. An "apply" button is at the bottom.
- Footer:** The footer includes "Event Viewer:" with an icon and "Data Storage Software V6 - All rights reserved".

NOTE:

There need to be at least two *auxiliary connections*. The interface with the virtual IP can also serve as one of the auxiliary connections. Please set the Virtual IP Address in a different network subnet then the physical IP Address. To have additional Failover systems, please set this pair in a different network subnet from the other Failover systems. If the virtual IP must be in the same network subnet, there will be extra configuration steps required. Please refer to other document which describe configuration with static routing.

NAS (NFS) Failover over a LAN



Data Server (DSS1)
Primary node
IP Address: 192.168.0.220

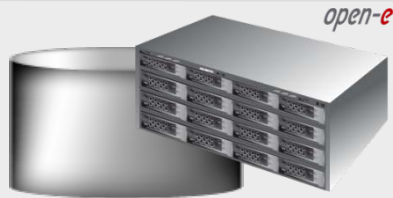
5. Configure Virtual IP and Auxiliary connection

Now, select the eth1 within Failover.
In the **Auxiliary connection** function check box **Use this network interface to communicate between the nodes** next enter IP address for Unicast remote IP and click the **apply** button.

The screenshot shows the open-e web interface with the following elements:

- Header:** open-e logo, "ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS", and "DATA STORAGE SOFTWARE V6".
- Navigation:** SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP.
- Breadcrumb:** You are here: SETUP > network > Failover.
- Left Panel:**
 - Interfaces:** eth0, eth1, eth2 (bond0), eth3 (bond0), bond0.
 - Failover:** eth0, eth1, bond0. (An arrow points from the text box to eth1 in this list.)
- Virtual IP Settings:**
 - Info:** Virtual IP must be set in different subnetwork than physical IP on this machine and must be in different subnetwork than Virtual IP sets on other machines in the same network area configured also as failover.
 - MAC: 00:15:17:18:e7:f5
 - ☐ Enable virtual IP
 - apply** button
- Auxiliary connection:**
 - ☒ Use this network interface to communicate between the nodes. (An arrow points from the text box to this checkbox.)
 - Unicast remote IP: 192.168.1.221
 - apply** button
 - Link: Please apply changes or press "reload" button to discard
- Footer:** Event Viewer icon, "Data Storage Software V6 - All rights reserved".

NAS (NFS) Failover over a LAN



Data Server (DSS2)

Secondary node

IP Address: 192.168.0.221

5. Configure Virtual IP and Auxiliary connection

Choose, „**SETUP**“ and „**network**“ and „**Interfaces**“ from the menu

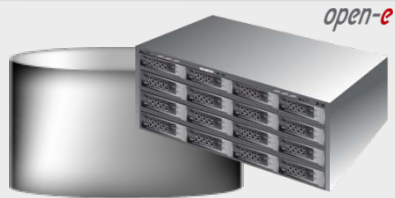
Now, select the **bond0** within **Failover**.
In the **Virtual IP Settings** function check the box **Enable virtual IP** and enter IP address, Netmask, Broadcast, and click the **apply** button.

By setting the address of the primary node in a **Failover configuration**, automatic detection of the interface for communication. This step is necessary to complement the destination IP address used in unicast.

The screenshot shows the open-e web interface with the following elements:

- Header:** open-e logo, "ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS", and "DATA STORAGE SOFTWARE V6".
- Navigation:** SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP.
- Breadcrumb:** You are here: SETUP > network > Failover
- Left Panel:** A tree view under "Interfaces" showing eth0, eth1, eth2 (bond0), eth3 (bond0), and bond0. Below it, a "Failover" section shows eth0, eth1, and bond0.
- Virtual IP Settings Panel:**
 - Info:** Virtual IP must be set in different subnetwork than physical IP on this machine and must be in different subnetwork than Virtual IP sets on other machines in the same network area configured also as failover.
 - MAC:** 02:bd:77:64:5f:96
 - ☒ **Enable virtual IP**
 - IP address:** 192.168.10.230
 - Netmask:** 255.255.255.0
 - Broadcast:** 192.168.10.255
 - apply** button
 - Link: Please apply changes or press "reload" button to discard
- Auxiliary connection Panel:**
 - ☒ **Use this network interface to communicate between the nodes.**
 - Unicast remote IP:** 192.168.2.220
 - apply** button
 - Link: Please apply changes or press "reload" button to discard
- Footer:** Event Viewer icon and "Data Storage Software V6 - All rights reserved".

NAS (NFS) Failover over a LAN



Data Server (DSS2)

Secondary node

IP Address: 192.168.0.221

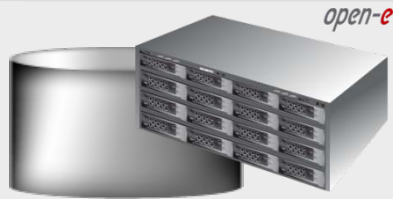
5. Configure Virtual IP and Auxiliary connection

Now, select the eth1 within Failover.
In the Auxiliary connection function check box Use this network interface to communicate between the nodes next enter IP address for Unicast remote IP and click the **apply** button.

The screenshot shows the open-e web interface with the following elements:

- Header:** open-e logo, "ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS", and "DATA STORAGE SOFTWARE V6".
- Navigation:** SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP.
- Breadcrumb:** You are here: SETUP > network > Failover
- Left Panel:**
 - Interfaces:** eth0, eth1, eth2 (bond0), eth3 (bond0), bond0.
 - Failover:** eth0, eth1, bond0.
- Virtual IP Settings:**
 - Info:** Virtual IP must be set in different subnetwork than physical IP on this machine and must be in different subnetwork than Virtual IP sets on other machines in the same network area configured also as failover.
 - MAC: 00:e0:81:58:4f:c3
 - ☐ Enable virtual IP
 - apply** button
- Auxiliary connection:**
 - ☒ Use this network interface to communicate between the nodes.
 - Unicast remote IP: 192.168.1.220
 - apply** button
 - Link: Please apply changes or press "reload" button to discard
- Footer:** Event Viewer: [icon], Data Storage Software V6 - All rights reserved

NAS (NFS) Failover over a LAN



Data Server (DSS1)
Primary node
IP Address: 192.168.0.220

6. Select services used in Failover

Now, in Failover services function (on primary node), uncheck the box with iSCSI, then check box with NFS, and click the **apply** button

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Failover

Interfaces

- eth0
- eth1
- eth2 (bond0)
- eth3 (bond0)
- bond0

Primary node IP:
Show advanced >>

Failover

- eth0
- eth1
- bond0

Failover services

Please select services used in Failover:

- ☒ NFS
- ☐ iSCSI

Show advanced >>

apply

Please apply changes or press "reload" button to discard

Failover Tasks

Tasks

Search: Search:

Event Viewer:

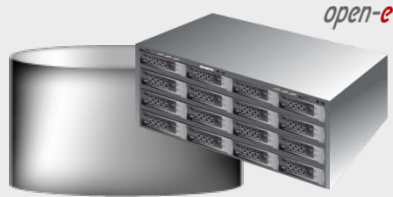
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NOTE:

Selecting NFS in Failover service will reduce the access to shares on volumes used in Failover Tasks to NFS access only. Activating Failover Service will automatically deactivate all other services for those shares.

NAS (NFS) Failover over a LAN

open-e



Data Server (DSS1)

Primary node

IP Address: 192.168.0.220

7. Start Failover Service

Next, in the **Failover Tasks** function, move the Failover Tasks to be used for the failover service to the Failover Tasks area clicking ➡ button and click **apply**

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Failover

Interfaces

- eth0
- eth1
- eth2 (bond0)
- eth3 (bond0)
- bond0

Failover

- eth0
- eth1
- bond0

Failover Tasks

Tasks | Failover Tasks

Search: | Search:

[COMMON] failover_data
[NAS] MirrorTask

apply

Please apply changes or press "reload" button to discard

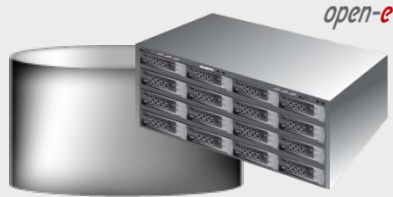
Failover manager

Info
No task has been selected.

Event Viewer: | Data Storage Software V6 - All rights reserved

NAS (NFS) Failover over a LAN

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Data Server (DSS1)

Primary node

IP Address:192.168.0.220

7. Start Failover Service

At this point both nodes are ready to start the Failover service

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Failover

Interfaces

- eth0
- eth1
- eth2 (bond0)
- eth3 (bond0)
- bond0

Failover

- eth0
- eth1
- bond0

[NAS] MirrorTask
[COMMON] failover_data

apply

Failover manager

start stop

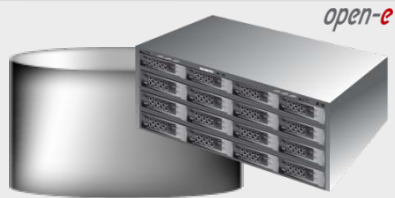
In order to delegate (switch) active server state to the passive server click the Manual failover button. This will initiate a failover event and switch the primary server to suspend mode, while the secondary server will be promoted to active mode. Please note this will stop the volume replication process.

Manual failover

Event Viewer: [icon]

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NAS (NFS) Failover over a LAN



Data Server (DSS1)
Primary node
IP Address: 192.168.0.220

7. Start Failover Service

After clicking the **start** button
configuration of both nodes will
be complete

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Failover

Interfaces

- eth0
- eth1
- eth2 (bond0)
- eth3 (bond0)
- bond0

Failover

- eth0
- eth1
- bond0

Failover manager

Info
Configuration of both nodes finished successfully.

start **stop**

In order to delegate (switch) active server state to the passive server click the Manual failover button. This will initiate a failover event and switch the primary server to suspend mode, while the secondary server will be promoted to active mode. Please note this will stop the volume replication process.

Manual failover

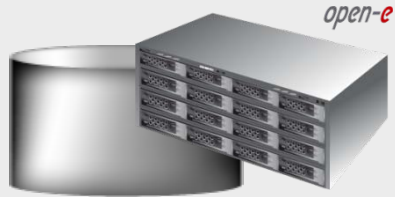
Event Viewer: [icon]

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NOTE:
You can now mount the NFS client computers.

NAS (NFS) Failover over a LAN

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Data Server (DSS1)

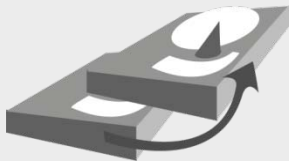
Primary node

IP Address: 192.168.0.220

7. Start Failover Service

After start Failover, check the status in Failover status function. All must read OK

NAS Failover/Volume Replication



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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Failover

Interfaces

- eth0
- eth1
- eth2 (bond0)
- eth3 (bond0)
- bond0

Failover

- eth0
- eth1
- bond0

Failover status

Names	Status
Global status	
Service running	ok
Node status	primary/active
Ping node group status	ok
Individual ping node status:	
IP: 192.168.2.107	ok
IP: 192.168.2.106	ok
Failover services:	
iSCSI	off
NFS	on
Communication via:	
bond0	ok
eth1	ok
Task status	
[NAS] MirrorTask	running
[COMMON] failover_data	running

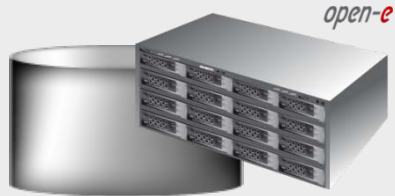
Failover configuration

Event Viewer: [icon]

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NAS (NFS) Failover over a LAN

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Data Server (DSS1)

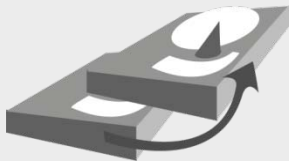
Primary node

IP Address: 192.168.0.220

7. Start Failover Service

In the Task status, (after clicking  button) the destination volumes must be consistent.

NAS Failover/Volume Replication



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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Failover

Interfaces

- eth0
- eth1
- eth2 (bond0)
- eth3 (bond0)
- bond0



Failover


- eth0
- eth1
- bond0

Communication via:

bond0	ok
eth1	ok

Task status

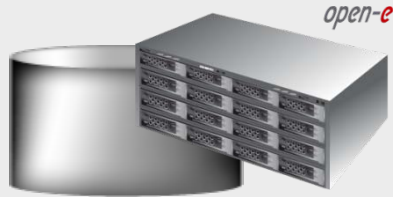
 [NAS] MirrorTask	running
Connection:	Connected
Source info:	
Logical volume:	lv0000
Consistency:	Consistent
Destination info:	
Logical volume:	lv0000
Consistency:	Consistent
IP address:	192.168.1.221
NFS shares:	Data
 [COMMON] failover_data	running
Connection:	Connected
Source info:	
Logical volume:	failover_data
Consistency:	Consistent
Destination info:	
Logical volume:	failover_data
Consistency:	Consistent
IP address:	192.168.1.221

Event Viewer: 

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NAS (NFS) Failover over a LAN

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Data Server (DSS1)

Primary node

IP Address: 192.168.0.220

8. Test Failover Function

In order to test Failover in **Manual Failover** function, click on the **Manual failover** button.

The screenshot displays the open-e web interface for the Data Storage Software V6. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Failover', reached via the path: You are here: SETUP > network > Failover. The left sidebar shows two expandable sections: 'Interfaces' and 'Failover'. Under 'Interfaces', the list includes eth0, eth1, eth2 (bond0), eth3 (bond0), and bond0. Under 'Failover', the list includes eth0, eth1, and bond0. The main content area features a 'Failover manager' section with an 'Info' message stating 'Configuration of both nodes finished successfully.' Below this message are 'start' and 'stop' buttons. A detailed instruction text explains the manual failover process: 'In order to delegate (switch) active server state to the passive server click the Manual failover button. This will initiate a failover event and switch the primary server to suspend mode, while the secondary server will be promoted to active mode. Please note this will stop the volume replication process.' A red button labeled 'Manual failover' is positioned at the bottom of this instruction block. A blue arrow from the text box on the left points directly to this 'Manual failover' button. The footer of the interface includes an 'Event Viewer' icon and the text 'Data Storage Software V6 - All rights reserved'.

NAS (NFS) Failover over a LAN

open-e



Data Server (DSS1)

Primary node

IP Address:192.168.0.220

8. Test Failover Function

open-e | ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS | DATA STORAGE SOFTWARE V6

SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Failover

Interfaces

- eth0
- eth1
- eth2 (bond0)
- eth3 (bond0)
- bond0

Failover

- eth0
- eth1
- bond0

Failover manager

Info
Server is in suspend mode.

start stop

In order to delegate (switch) active server state to the passive server click the Manual failover button. This will initiate a failover event and switch the primary server to suspend mode, while the secondary server will be promoted to active mode. Please note this will stop the volume replication process.

Manual failover

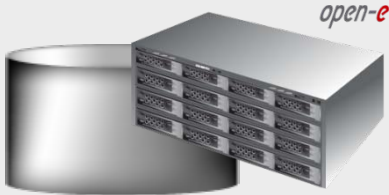
Event Viewer: [icon]

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After clicking on the **Manual failover** button, primary node enters suspend mode

NAS (NFS) Failover over a LAN

open-e



Data Server (DSS1)

Primary node

IP Address: 192.168.0.220

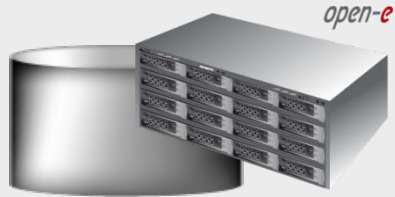
8. Test Failover Function

The Failover status function shows the **Global status** of the primary node. Status service is in **suspend** mode and the node is **inactive**.

Names	Status
Global status	
Service running	suspend
Node status	inactive
Ping node group status	unknown
Individual ping node status:	
IP: 192.168.2.107	ok
IP: 192.168.2.106	ok
Failover services:	
iSCSI	off
NFS	on
Communication via:	
bond0	unknown
eth1	unknown
Task status	
[NAS] MirrorTask	running/disconnected
[COMMON] failover_data	running/disconnected

NAS (NFS) Failover over a LAN

open-e



Data Server (DSS2)

Secondary node

IP Address: 192.168.0.221

8. Test Failover Function

In Failover status function
Global status shows the status
of the secondary node. The
service status is **degraded** and
Node status is **active**.

Names	Status
Global status	
Service running	degraded
Node status	secondary/active
Ping node group status	ok
Individual ping node status:	
IP: 192.168.2.107	ok
IP: 192.168.2.106	ok
Failover services:	
iSCSI	off
NFS	on
Communication via:	
bond0	failed
eth1	failed
Task status	
[NAS] MirrorTask_reverse	stopped
[COMMON] failover_data_reverse	stopped

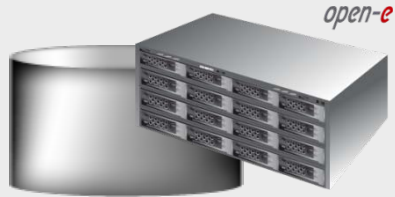
Failover configuration

Event Viewer: [icon]

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NAS (NFS) Failover over a LAN

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Data Server (DSS2)

Secondary node

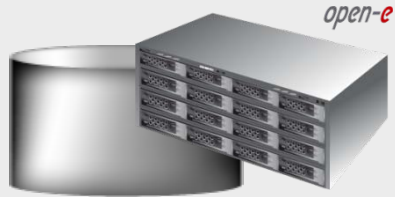
IP Address:192.168.0.221

9. Run Failback Function

In order to run Failback in Failover manager function click on the **Sync volumes** button first.

NAS (NFS) Failover over a LAN

open-e



Data Server (DSS2)

Secondary node

IP Address:192.168.0.221

9. Run Failback Function

After synchronization the task status of the destination volume must be **Consistent**

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: SETUP > network > Failover

Interfaces

- eth0
- eth1
- eth2 (bond0)
- eth3 (bond0)
- bond0

Failover

- eth0
- eth1
- bond0

Failover status

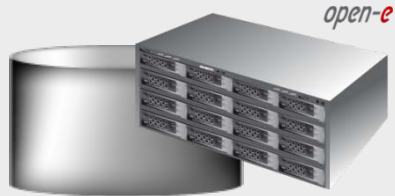
Names	Status
Global status	
Service running	degraded
Node status	secondary/active
Ping node group status	ok
Individual ping node status:	
IP: 192.168.2.107	ok
IP: 192.168.2.106	ok
Failover services:	
iSCSI	off
NFS	on
Communication via:	
bond0	failed
eth1	failed
Task status	
[NAS] MirrorTask_reverse	running
Connection:	Connected
Source info:	
Logical volume:	lv0000
Consistency:	Consistent
Destination info:	

Event Viewer: [icon]

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NAS (NFS) Failover over a LAN

open-e



Data Server (DSS2)

Secondary node

IP Address:192.168.0.221

9. Run Failback Function

The screenshot shows the open-e Data Storage Software V6 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates 'You are here: SETUP > network > Failover'. The left sidebar has two main sections: 'Interfaces' and 'Failover'. Under 'Interfaces', there are radio buttons for 'eth0', 'eth1', 'eth2 (bond0)', 'eth3 (bond0)', and 'bond0'. Under 'Failover', there are radio buttons for 'eth0', 'eth1', and 'bond0'. The main content area is titled 'Failover manager' and contains two informational messages. The first message states: 'Volume replication process started. Please go to Failover Status to check the status of your tasks.' The second message states: 'When in secondary mode, the start and stop buttons control this node only. Please use the relevant buttons on the primary node to control both nodes.' Below these messages are two buttons: 'start' and 'stop'. Further down, there is a 'Sync volumes' button and a 'Failback' button. A blue arrow points from a text box on the left to the 'Failback' button.

Interfaces

- eth0
- eth1
- eth2 (bond0)
- eth3 (bond0)
- bond0

Failover

- eth0
- eth1
- bond0

Failover manager

Info
Volume replication process started. Please go to Failover Status to check the status of your tasks.

Info
When in secondary mode, the start and stop buttons control this node only. Please use the relevant buttons on the primary node to control both nodes.

start **stop**

In order to synchronize data from the secondary/active server to the primary server, click the Sync volumes button.

Sync volumes

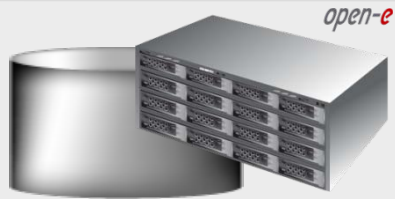
Clicking the Failback button will return the active server state to the primary server, while the secondary server will return to passive mode. Please note this is only possible when the participating volumes are in sync. After the failback has been completed, the primary server is ready for another failover.

Failback

In order to return the active server state to the Primary server click on the **Failback** button

NAS (NFS) Failover over a LAN

open-e



Data Server (DSS1)

Primary node

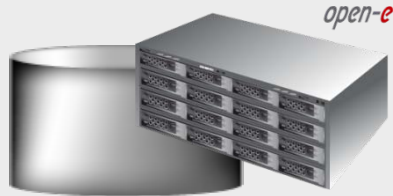
IP Address:192.168.0.220

9. Run Failback Function

After clicking on **Failback** button (in Failover manager function on Secondary node) Primary node is now active.

The screenshot displays the open-e web interface for the Data Storage Software V6. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: You are here: SETUP > network > Failover. The main content area is divided into two sections: Interfaces and Failover. The Interfaces section lists network interfaces: eth0, eth1, eth2 (bond0), eth3 (bond0), and bond0. The Failover section also lists these interfaces. A blue arrow points from the text box on the left to the Failover manager window. The Failover manager window has a title bar with a refresh icon and a help icon. It contains an 'Info' section with a checkmark icon and the text 'Your node is now active'. Below this are 'start' and 'stop' buttons. A detailed instruction block follows, explaining the manual failover process: 'In order to delegate (switch) active server state to the passive server click the Manual failover button. This will initiate a failover event and switch the primary server to suspend mode, while the secondary server will be promoted to active mode. Please note this will stop the volume replication process.' At the bottom of this block is a 'Manual failover' button. The footer of the interface shows 'Event Viewer:' with an envelope icon and 'Data Storage Software V6 - All rights reserved'.

NAS (NFS) Failover over a LAN

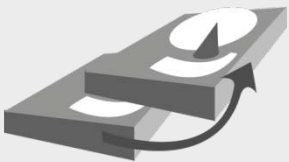


Data Server (DSS1)
Primary node
IP Address: 192.168.0.220

9. Run Failback Function

Primary node is active again
and ready for Failover.

Failover/Volume Replication



The configuration and testing of
NAS Failover/Failback is now
complete.

Names	Status
Global status	
Service running	ok
Node status	primary/active
Ping node group status	ok
Individual ping node status:	
IP: 192.168.2.107	ok
IP: 192.168.2.106	ok
Failover services:	
iSCSI	off
NFS	on
Communication via:	
bond0	ok
eth1	ok
Task status	
[NAS] MirrorTask	running
[COMMON] failover_data	running

Thank you!